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CHAPTER 2.3.1.

BOVINE BRUCELLOSIS

Article 2.3.1.1.

The recommendations in this Chapter are intended to manage the human and animal health risks associated with *Brucella abortus*, *B. melitensis* or *B. suis* infection in cattle (*Bos taurus*, *B. indicus* and *B. grunniens*), **bison (*Bison bison*)** and buffalo (*Bubalus bubalis*).

For the purposes of this chapter, a herd means an animal (cattle, **bison** or buffalo) or a group of animals (cattle, **bison** or buffalo) kept on one or several holding(s) under a common biosecurity management system in such a way that it constitutes an animal sub-population with a distinct health status.

Comment [mjd1]: Please see our suggested recommendations under the heading of "Suggested change 2" under this Article.

When authorising import or transit of the following *commodities*, *Veterinary Administrations* should comply with the requirements prescribed in this Chapter relevant to the status of bovine brucellosis in the *exporting country, zone or compartment*:

- 1) live animals;
- 2) semen, ova and *in vivo* derived embryos collected and handled in accordance with the recommendations of the International Embryo Transfer Society;
- 3) meat and meat products;
- 4) milk and milk products.

Standards for diagnostic tests and vaccines are described in the *Terrestrial Manual*.

Suggested change 1: Replace the phrase “cattle and buffalo” with “cattle, bison and buffalo”. These changes are made to Articles 2.3.1.1 through 2.3.1.8.

Rationale: Genus/species designation is specific for “buffalo” (*Bubalus bubalis*) is not the same as that for “North American bison” (*Bison bison*). Since North American bison are of a different genus and species designation than that included in the proposed OIE Code Chapter, it might be inferred

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that bison are not included. By changing the terminology to include “bison,” it will be clear that North American bison are included in the Code Chapter.

Suggested change 2: Please consider defining a “herd” as either:

- (a) All animals under common ownership or supervision that are grouped on one or more parts of any single premises (lot, farm, or ranch); or
- (b) All animals under common ownership or supervision on two or more premises which are geographically separated but on which animals from the different premises have been interchanged or had contact with animals from different premises. It will be assumed that contact between animals of the same species on the different premises has occurred unless the owner establishes otherwise and the results of an epidemiologic evaluation are consistent with the lack of contact between premises; or
- (c) All animals of the same species on common premises, such as community pastures or grazing association units, but owned by different persons. Other groups of animals owned by the persons involved that are located on other premises are considered to be part of a herd unless an epidemiologic evaluation establishes that the animals have not had the opportunity for direct or indirect contact with animals from the specified premises.

Rationale: Multiple individual herd owners might practice the same or “common” biosecurity management system, without having any other commonalities with their animals. Practicing the same biosecurity management as other producers does not solely predicate a “common” herd. “Common” biosecurity management practices should not solely define a herd. Other factors such as ownership, commingling, direct or indirect contact (i.e. sharing of bulls or sharing of equipment or personnel between premises without appropriate biosecurity measures), etc. must also be considered when defining a herd.

Article 2.3.1.2.

Country or zone free from bovine brucellosis without vaccination

To qualify as free from bovine brucellosis without vaccination, a country or *zone* should satisfy the following requirements:

- 1) ~~bovine~~ brucellosis or any suspicion thereof is *notifiable* in the country;

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- 2) the entire **domestic** cattle, **bison** and buffalo population of the country or zone is under *official veterinary control* ~~and it has been ascertained that the rate of brucellosis infection does not exceed 0.2% of the cattle herds in the country or zone under consideration;~~

Suggested change: add the word “domestic” prior to cattle in item 2) above.

Comment: Does the reference to “entire” also include wild animals of these species? The national regulatory veterinary authorities may not have jurisdiction over wild populations in the country.

- ~~3. the serological tests for bovine brucellosis are periodically conducted in each herd, with or without the ring test;~~
- ~~4. no animal has been vaccinated against bovine brucellosis for at least the past 3 years;~~
- ~~5. all reactors are slaughtered;~~
- ~~6. animals introduced into a free country or zone shall only come from herds officially free from bovine brucellosis or from herds free from bovine brucellosis. This condition may be waived for animals which have not been vaccinated and which, prior to entry into the herd, were isolated and were subjected to the serological tests for bovine brucellosis with negative results on two occasions, with an interval of 30 days between each test. These tests are not considered valid in female animals which have calved during the past 14 days.~~

~~In a country where all herds of cattle have qualified as officially free from bovine brucellosis and where no reactor has been found for the past 5 years, the system for further control may be decided by the country concerned.~~

- 3) regular and periodic testing of all cattle, **bison** and buffalo herds has shown that at least 99.8% of the herds and 99.9% of the animals in the country or zone have been found free from bovine brucellosis for 3 consecutive years;
- 4) no case of abortion due to *Brucella* infection and no isolation of *Brucella* has been recorded in cattle and buffalo for at least the last 3 years;
- 5) no animal has been vaccinated against bovine brucellosis for at least the past 3 years. This condition may be waived for animals introduced **directly** for slaughter;

Suggested change: For complete clarity, insert the word “directly” right after the word “introduced”

Rationale: Animals introduced for slaughter may include animals going into feedlots and/or going to sale through livestock auction markets. Without

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assurances of authority, some of these animals might be diverted to places other than for slaughter.

6) cattle, **bison** and buffalo introduced into a country or zone free from brucellosis without vaccination should be accompanied by a certificate from an *Official Veterinarian* attesting that they come from:

- a) a country or zone free from bovine brucellosis without vaccination; or
- b) a compartment or a herd free from bovine brucellosis ~~with or~~ without vaccination, provided that negative results were shown to a prescribed test during the 30 days prior to shipment. This test is not considered valid in female animals which have calved during the past 30 days;

Comment: This sub-section 6) talks about a “country or zone” free from brucellosis without vaccination, so the word “with” should be removed from the above sentence.

7) a surveillance programme based on regular and periodic serological testing of cattle and buffalo with or without milk testing should be in place in the country or zone to detect bovine brucellosis in accordance to Appendix 3.8.1.

Article 2.3.1.3.

~~Herd officially free from bovine brucellosis~~

Compartment or herd free from bovine brucellosis without vaccination

To qualify as ~~officially~~ free from bovine brucellosis without vaccination, a compartment or herd of cattle, **bison** or buffalo ~~shall~~ should satisfy the following requirements:

- 1. ~~it is under official veterinary control;~~
- 2. ~~it contains no animal which has been vaccinated against bovine brucellosis during at least the past 3 years;~~
- 3. ~~it only contains animals which have not showed evidence of bovine brucellosis infection during the past 6 months, all suspect cases (such as animals which have prematurely calved) having been subjected to the necessary laboratory investigations;~~
- 4. ~~all cattle over the age of one year (except castrated males) were subjected to serological tests with negative results on two occasions, at an interval of 12 months between each test; this requirement is maintained even if the entire herd is normally tested every year or~~

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~~testing is conducted in conformity with other requirements established by the *Veterinary Administration* of the country concerned;~~

5. ~~additions to the herd shall only come from herds officially free from bovine brucellosis. This condition may be waived for animals which have not been vaccinated, come from a herd free from bovine brucellosis, provided that negative results were shown following a buffered *Brucella* antigen test and the complement fixation test during the 30 days prior to entry into the herd. Any recently calved or calving animal should be retested after 14 days, as tests are not considered valid in female animals which have calved during the past 14 days.~~
- 1) brucellosis or any suspicion thereof is *notifiable* in the country;
 - 2) the *compartment* or herd is in a country or zone free from bovine brucellosis without vaccination and is certified free by the *Veterinary Administration*; or
 - 3) all cattle, **bison** and buffalo in the *compartment* or in the herd:
 - a) are under *official veterinary control*;
 - b) showed no evidence of bovine brucellosis infection for at least the past 6 months;
 - c) have not been vaccinated against bovine brucellosis during at least the past 3 years;
 - d) over 12 months of age, were subjected to a prescribed test with negative results on two occasions, at an interval of more than 6 months and less than 12 months between each test, the second test being performed not before 9 months after the slaughter of the last affected animal;
 - e) showed a negative result to annual testing regime using tests recommended in the *Terrestrial Manual* to ensure the continuing absence of bovine brucellosis;
 - 4) cattle, **bison** and buffalo introduced into a *compartment* or herd free from bovine brucellosis without vaccination should be accompanied by a certificate from an *Official Veterinarian* attesting that they come from:
 - a) a country or zone free from bovine brucellosis without vaccination; or
 - b) a *compartment* or a herd free from bovine brucellosis ~~with or~~ without vaccination, provided that negative results were shown to a prescribed test during the 30 days prior to shipment. This test is not considered valid in female animals which have calved during the past 30 days.

Comment: See Comment under Article 2.3.1.2 6) b).

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Article 2.3.1.4.

Country or zone free from bovine brucellosis with vaccination

To qualify as free from bovine brucellosis with vaccination, a country or zone should satisfy the following requirements:

- 1) brucellosis or any suspicion thereof is *notifiable* in the country;
- 2) the entire **domestic** cattle, **bison** and buffalo population of the country or zone is under *official veterinary control*;

Suggested change: add the word “domestic” prior to cattle in item 2) above.

Comment: Does the reference to “entire” also include wild animals of these species? The national regulatory veterinary authorities may not have jurisdiction over wild populations in the country.

- 3) regular and periodic testing of all cattle and buffalo herds has shown that at least 99.8% of the herds and 99.9% of the animals in the country or zone have been found free from bovine brucellosis for 3 consecutive years;
- 4) no case of abortion due to *Brucella* infection and no isolation of *Brucella* has been recorded in cattle and buffalo for at least the past 3 years;
- 5) herds are subjected to either a vaccination or a non-vaccination programme;
- 6) cattle, **bison** and buffalo introduced into a country or zone free from bovine brucellosis with vaccination should be accompanied by a certificate from an *Official Veterinarian* attesting that they come from:
 - = a country or zone free from bovine brucellosis with or without vaccination; or
 - = a *compartment* or a herd free from bovine brucellosis with or without vaccination, provided that negative results were shown to a prescribed test during the 30 days prior to shipment. ~~This test is not considered valid in female animals which have calved during the past 30 days.~~ This test is not required for young animals vaccinated young with the S19 vaccine according to the specific recommendations of the *Terrestrial Manual*, and subject to trade before the age of 24 months;

Suggested change: delete the indicated sentence.

Rationale/Comment: Tests on female animals that have calved during the past 30 days should *not* be considered invalid and these animals should not be exempt from the herd test. Abortions or weak calves are signs of brucellosis. Exempting these animals that have recently calved (or possibly aborted) could miss infection. The best test is the post-calving

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test. Herd certification is predicated on a whole herd test. Movement based on herd certification is predicated on a whole herd test. Without including these animals, the test should not be considered a whole herd test, and therefore should not be used as a herd certification test.

- 7) a surveillance programme based on regular and periodic serological testing of cattle and buffalo with or without milk testing should be in place in the country or zone to detect bovine brucellosis in accordance to Appendix 3.8.1.

Article 2.3.1.4-5.

~~Herd free from bovine brucellosis~~

~~To qualify as free from bovine brucellosis, a herd of cattle shall satisfy the following requirements:~~

- ~~1. it is under official veterinary control;~~
- ~~2. it is subjected to either a vaccination or a non-vaccination regime;~~
- ~~3. if a live vaccine is used in female cattle, vaccination must be carried out between 3 and 6 months of age, in which case these female cattle must be identified with a permanent mark;~~
- ~~4. all cattle over the age of one year are controlled as provided in paragraph 4) of the definition of a herd of cattle officially free from bovine brucellosis; however, cattle under 30 months of age which have been vaccinated using a live vaccine before reaching 6 months of age, may be subjected to a buffered *Brucella* antigen test with a positive result, with the complement fixation test giving a negative result;~~
- ~~5. all cattle introduced into the herd come from a herd officially free from bovine brucellosis or from a herd free from bovine brucellosis, or from a country or zone free from bovine brucellosis. This condition may be waived for animals which have been isolated and which, prior to entry into the herd, were subjected to the serological tests for bovine brucellosis with negative results on two occasions, with an interval of 30 days between each test. These tests are not considered valid in female animals which have calved during the past 14 days.~~

Compartment or herd free from bovine brucellosis with vaccination

To qualify as free from bovine brucellosis with vaccination, a *compartment* or herd of cattle, [bison](#) or buffalo should satisfy the following requirements:

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- 1) brucellosis or any suspicion thereof is *notifiable* in the country;
- 2) the *compartment* or herd is in a country or *zone* free from bovine brucellosis with vaccination ~~and that~~ is certified free by the *Veterinary Administration*; ~~or and~~

Suggested change: as indicated in 2) above.

Rationale/Comment: The wording as proposed implies that a *compartment* or herd can be certified free by an administrative declaration. A *compartment* or herd must meet testing requirements to be declared certified free. This is misleading and does not establish that testing requirements were met. The *compartment* or herd must be declared free by an administrative governing body only after it has met the testing and all other designated requirements.

- 3) all cattle, **bison** and buffalo in the *compartment* or in the herd;
- 4) are under *official veterinary control*;
- 5) showed no evidence of bovine brucellosis infection for at least the past 6 months;
- 6) are or have been subjected to a vaccination programme. Where vaccine is used all vaccinated animals should be permanently identified as such;
- 7) over 12 months of age, were subjected to a prescribed test with negative results on two occasions, at an interval of more than 6 months and less than 12 months between each test, the second test being performed not before 9 months after the slaughter of the last affected animal;
- 8) showed a negative result to annual testing regime using tests recommended in the *Terrestrial Manual* to ensure the continuing absence of bovine brucellosis;
- 9) however, in animals less than 24 months of age vaccinated as young with the S19 vaccine, according to the specific recommendations of the *Terrestrial Manual*, the tests referred in paragraphs d) and e) need not to be performed;

Note on numbering: Should items 4) – 9) in this Article be re-numbered a) – f) under 3) ?

- 10) cattle, **bison** and buffalo introduced into a *compartment* or herd free from brucellosis with vaccination should be accompanied by a certificate from an *Official Veterinarian* attesting that they come from:
 - a) a country or *zone* free from bovine brucellosis with or without vaccination; or

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- b) a compartment or a herd free from bovine brucellosis with or without vaccination, provided that negative results were shown to a prescribed test during the 30 days prior to shipment. ~~This test is not considered valid in female animals which have calved during the past 30 days.~~ This test is not required for young animals vaccinated young with the S19 vaccine according to the specific recommendations of the *Terrestrial Manual*, and subject to trade before the age of 24 months.

Suggested change: delete the indicated sentence.

Rationale/Comment: Tests on female animals that have calved during the past 30 days should *not* be considered invalid and these animals should not be exempt from the herd test. Abortions or weak calves are signs of brucellosis. Exempting these animals that have recently calved (or possibly aborted) could miss infection. The best test is the post-calving test. Herd certification is predicated on a whole herd test. Movement based on herd certification is predicated on a whole herd test. Without including these animals, the test should not be considered a whole herd test, and therefore should not be used as a herd certification test.

Article 2.3.1.5-~~6~~.

Veterinary Administrations of importing countries should require:

for cattle, bison and buffalo for breeding or rearing ~~(except castrated males)~~

the presentation of an *international veterinary certificate* attesting that the animals:

- 1) showed no clinical sign of bovine brucellosis on the day of shipment;
2. ~~were kept in a herd in which no clinical sign of bovine brucellosis was officially reported during the 6 months prior to shipment;~~
3. ~~were kept in a country or zone free from bovine brucellosis, or were from a herd officially free from bovine brucellosis and were subjected to a serological test for bovine brucellosis with negative results during the 30 days prior to shipment; or~~
4. ~~were kept in a herd free from bovine brucellosis and were subjected to buffered *Brucella* antigen and complement fixation tests with negative results during the 30 days prior to shipment;~~

~~if the cattle come from a herd other than those mentioned above;~~

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5. ~~were isolated prior to shipment and were subjected to a serological test for bovine brucellosis with negative results on two occasions, with an interval of not less than 30 days between each test, the second test being performed during the 15 days prior to shipment. These tests are not considered valid in female animals which have calved during the past 14 days.~~
- 2) originate from a herd free from bovine brucellosis that is in a country or zone free from bovine brucellosis without or with vaccination; or
- 3) originate from a compartment or a herd free from bovine brucellosis with or without vaccination, provided that negative results were shown to a prescribed test during the 30 days prior to shipment. ~~This test is not considered valid in female animals which have calved during the past 30 days.~~ This test is not required for young animals vaccinated young with the S19 vaccine according to the specific recommendations of the *Terrestrial Manual*, and subject to trade before the age of 24 months; or

Suggested change: delete the indicated sentence.

Rationale/Comment: Tests on female animals that have calved during the past 30 days should *not* be considered invalid and these animals should not be exempt from the herd test. Abortions or weak calves are signs of brucellosis. Exempting these animals that have recently calved (or possibly aborted) could miss infection. The best test is the post-calving test. Herd certification is predicated on a whole herd test. Movement based on herd certification is predicated on a whole herd test. Without including these animals, the test should not be considered a whole herd test, and therefore should not be used as a herd certification test.

- 4) were isolated and showed no clinical sign of bovine brucellosis for 6 months prior to shipment and were subjected to a prescribed test with negative results on two occasions, with an interval of not less than 6 months between each test. These tests are not considered valid in female animals which have calved during the past 30 days.

Article 2.3.1.6.7.

Veterinary Administrations of importing countries should require:

for cattle, bison and buffalo for slaughter ~~(except castrated males)~~

the presentation of an *international veterinary certificate* attesting that the animals:

1. ~~showed no clinical sign of bovine brucellosis on the day of shipment;~~

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- ~~2. are not being eliminated as part of an eradication programme against bovine brucellosis;~~
- ~~3. were kept in a country or zone free from bovine brucellosis; or~~
- ~~4. were kept in a herd officially free from bovine brucellosis; or~~
- ~~5. were kept in a herd free from bovine brucellosis; or~~
- ~~6. were subjected to a serological test for bovine brucellosis with negative results during the 30 days prior to shipment.~~
- 1) originated from a herd free from bovine brucellosis with or without vaccination or were subjected to a prescribed test for bovine brucellosis with negative results during the 30 days prior to shipment;
- 2) were not being eliminated as part of an eradication programme against bovine brucellosis;
- 3) showed no clinical sign of bovine brucellosis on the day of shipment.

Article 2.3.1.7.8.

Veterinary Administrations of importing countries should require:

for bovine cattle, bison and buffalo semen

the presentation of an *international veterinary certificate* attesting that:

- ~~1. when the semen is from an *artificial insemination centre*, the testing programme includes the buffered *Brucella* antigen and complement fixation tests;~~
- ~~2. when the semen is not from an *artificial insemination centre*, the donor animals:~~
 - ~~a) were kept in a country or zone free from bovine brucellosis; or~~
 - ~~b) were kept in a herd officially free from bovine brucellosis, showed no clinical sign of bovine brucellosis on the day of collection of the semen and were subjected to a buffered *Brucella* antigen test with negative results during the 30 days prior to collection; or~~
 - ~~c) were kept in a herd free from bovine brucellosis, showed no clinical sign of bovine brucellosis on the day of collection and were subjected to the buffered *Brucella* antigen and complement fixation tests with negative results during the 30 days prior to collection; or~~
- ~~3. the semen was collected, processed and stored in conformity with the provisions of Appendix 3.2.1.~~
- 1) the donor animals:
 - a) showed no clinical sign of bovine brucellosis on the day of collection of the semen;

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- b) were not vaccinated against brucellosis;
 - c) were kept in an artificial insemination centre free from bovine brucellosis without vaccination in a country or zone free from bovine brucellosis with or without vaccination and which only accepts animals from herds free from bovine brucellosis with or without vaccination in a country or zone free from bovine brucellosis with or without vaccination; or
 - d) were kept in an artificial insemination centre free from bovine brucellosis without vaccination and showed negative results to prescribed tests carried out annually; or
 - e) were kept in a herd or a compartment free from bovine brucellosis with or without vaccination and were subjected annually to a prescribed test with negative results on two occasions, with an interval of not less than 6 months between each test; and
- 2) the semen was collected, processed and stored in conformity with the provisions of Appendix 3.2.1. (3.2.1.7. to 3.2.1.10.).

Article 2.3.1.8-9.

Veterinary Administrations of importing countries should require:

~~for in vivo derived bovine embryos~~ for embryos/ova of cattle

the presentation of an *international veterinary certificate* attesting that the embryos/ova were collected, processed and stored in conformity with the provisions of Appendix 3.3.1., 3.3.2. or 3.3.3., as relevant.

Article 2.3.1.9-10.

Veterinary Administrations of importing countries should require:

~~for in vitro produced bovine embryos/oocytes the presentation of an international veterinary certificate attesting that:~~

- 1. ~~the donor females: a) were kept in a country or zone free from bovine brucellosis; or b) were kept in a herd officially free from bovine brucellosis and were subjected to tests as prescribed in Appendix 3.1.1.;~~
- 2. ~~the oocytes were fertilised with semen meeting the conditions referred to in Appendix 3.2.1.;~~
- 3. ~~the embryos/oocytes were collected, processed and stored in conformity with the provisions of Appendix 3.3.1., Appendix 3.3.2. or Appendix 3.3.3., as relevant.~~

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for fresh meat and meat products of cattle

the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals which have been subjected to ante-mortem and post-mortem veterinary inspections as described in the Codex Alimentarius Code of Practice for Meat Hygiene.

Article 2.3.1.11.

Veterinary Administrations of importing countries should require:

for milk and milk products

the presentation of an international veterinary certificate attesting that the consignment:

- 1) has been derived from animals in a herd free from bovine brucellosis with or without vaccination; or
- 2) was subjected to pasteurisation or a combination of control measures with equivalent performance as described in the Codex Alimentarius Code of Hygienic Practice for Milk and Milk Products.